

[0112] In some circumstances, it may be desirable to centrally manage bead apparatus communication from a control apparatus. For example, the control apparatus may centrally orchestrate bead apparatus operation, communication, and/or the like. The control apparatus may, for example, be a tablet, cellphone, laptop, server, electronic apparatus, and/or the like. In at least one example embodiment, the control apparatus is a bead apparatus. For example, in the case of a first bead apparatus, a second bead apparatus, and a third bead apparatus, the first bead apparatus may manage operations, communications, and/or the like associated with the second bead apparatus and/or the third bead apparatus.

[0113] FIG. 2A is a block diagram showing apparatus communication according to at least one example embodiment. In the example of FIG. 2A, apparatus 202 is a control apparatus and each of beads 204 and 206 is a bead apparatus. In the example of FIG. 2A, apparatus 202 is in direct communication with bead 204 via communication channel 210. Bead 204 is in direct communication with bead 206 via communication channel 212. In the example of FIG. 2A, apparatus 202 is in indirect communication with bead 206 via an indirect communication channel by way of bead 204 and communication channels 210 and 212. For example, apparatus 202 may communicate with bead 204 via communication channel 210. Bead 204 may, subsequently, communicate with bead 206 via communication channel 212. Apparatus 202 may cause bead 204 to communicate with bead 206, may cause bead 204 to forward communication to bead 206, and/or the like. Although the example of FIG. 2A illustrates a control apparatus and two bead apparatus, additional bead apparatus may be in communication with apparatus 202, bead 204, and/or bead 206.

[0114] FIG. 2B is a block diagram showing apparatus communication according to at least one example embodiment. In the example of FIG. 2B, apparatus 222 is a control apparatus and each of beads 224, 226, and 228 is a bead apparatus. In the example of FIG. 2B, apparatus 222 is in direct communication with bead 224, bead 226, and bead 228 via communication channels 234, 236, and 238, respectively. In the example of FIG. 2B, bead 224 is in direct communication with bead 226 via communication channel 230. Bead 226 is in direct communication with bead 228 via communication channel 232. In the example of FIG. 2B, bead 224 is in indirect communication with bead 228 via an indirect communication channel by way of bead 226 and communication channels 230 and 232. For example, bead 224 may communicate with bead 226 via communication channel 230. Bead 226 may, subsequently, communicate with bead 228 via communication channel 232. Bead 224 may cause bead 226 to communicate with bead 228, may cause bead 226 to forward communication to bead 228, and/or the like. Additionally, each of beads 224, 226, and 228 may be in indirect communication with one another by way of apparatus 222 via communication channels 234, 236, and 238, respectively. Although the example of FIG. 2B illustrates a control apparatus and three bead apparatus, additional bead apparatus may be in communication with apparatus 222, bead 224, bead 226, and/or bead 228.

[0115] FIG. 3 is a block diagram showing apparatus communication according to at least one example embodiment. The example of FIG. 3 is merely an example and does not limit the scope of the claims. For example, separate apparatus count may vary, apparatus count may vary, communication channels may vary, and/or the like.

[0116] In some circumstances, it may be desirable to allow for remote interaction with a bead apparatus. For example, a user may desire his or her control apparatus and/or bead apparatus to communicate with a separate apparatus. In at least one example embodiment, a control apparatus communicates with a separate apparatus. The separate apparatus may, for example, be a server, a database, a computer, a laptop, and/or the like. Such communication may comprise sending of information to the separate apparatus, receiving information from the separate apparatus, and/or the like. In at least one example embodiment, a communication channel between the separate apparatus and the control apparatus is a cellular communication channel, a wireless local area network communication channel, a local area network communication channel, a wide area network communication channel, and/or the like. In at least one example embodiment, the separate apparatus communicates with a bead apparatus acting as a control apparatus for one or more additional bead apparatuses.

[0117] FIG. 3 is a block diagram showing apparatus communication according to at least one example embodiment. In the example of FIG. 3, separate apparatus 302 may be a server, a database, a computer, a laptop, and/or the like. Apparatus 304 may, for example, be a control apparatus, a bead apparatus, and/or the like. In the example of FIG. 3, separate apparatus 302 and apparatus 304 are in communication via communication channel 306. Communication channel 306 may, for example, be a cellular communication channel, a wireless local area network communication channel, a local area network communication channel, a wide area network communication channel, and/or the like. Although the example of FIG. 3 illustrates a single separate apparatus and a single apparatus, one or more additional separate apparatus and/or apparatus may be in communication with separate apparatus 302 and/or apparatus 304. In the example of FIG. 3, apparatus 304 may relate to apparatus 202 of FIG. 2A and/or apparatus 222 of FIG. 2B.

[0118] FIGS. 4A-4B are illustrations showing an apparatus according to at least one example embodiment. The examples of FIGS. 4A-4B are merely examples and do not limit the scope of the claims. For example, bead apparatus size, shape, design, and/or count may vary, bead apparatus arrangement may vary, connections between bead apparatuses may vary, and/or the like.

[0119] In some circumstances, a user may desire to utilize a bead apparatus as a companion apparatus. For example, a user may desire to use one or more bead apparatus in conjunction with an electronic apparatus, such as a cell phone, a tablet, and/or the like. In such an example, the user may desire to utilize the bead apparatus as a separate display and/or input device for use in conjunction with their electronic apparatus, for independent use, and/or the like. In at least one example embodiment, a bead apparatus is a display apparatus. In one or more example embodiments, a bead apparatus is a cube, a sphere, a rectangular prism, a triangular prism, a cylindrical prism, a trapezoidal prism, and/or the like. In at least one example embodiment, a bead apparatus comprises a display, a display and another display, and/or the like.

[0120] In some circumstances, it may be desirable to determine an orientation of a bead apparatus. In at least one example embodiment, a bead apparatus is rotatable along a specific axis. For example, a bead apparatus comprising a display and another display may be configured to rotate along an axis of the bead apparatus. In such an example, it may be